

EHRLICHIOSIS

I. IDENTIFICATION

A. **CLINICAL DESCRIPTION:** A Rickettsial induced tick-borne febrile illness commonly characterized by acute onset, accompanied by headache, myalgia, rigors, and malaise. Clinical laboratory findings may include intracytoplasmic microcolonies (morulae) of ehrlichiae in blood, bone marrow, or cerebrospinal fluid leukocytes; thrombocytopenia; leukopenia; and elevated liver enzymes (especially alanine aminotransferase or aspartate aminotransferase).

B. **REPORTING CRITERIA:** Laboratory confirmation of *Ehrlichia* infection.

C. **LABORATORY CRITERIA FOR CONFIRMATION:**

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- Fourfold or greater change in antibody titer to *E. chaffeensis* antigen by indirect immunofluorescence assay (IFA) test in paired serum samples; **OR**
- Positive polymerase chain reaction (PCR) assay and confirmation of *E. chaffeensis* DNA; **OR**
- Identification of morulae in leukocytes, and a positive IFA titer to *E. chaffeensis* antigen (based on cutoff titers established by the laboratory performing the assay); **OR**
- Immunostaining of *E. chaffeensis* antigen in a biopsy or autopsy sample; **OR**
- Culture of *E. chaffeensis* from a clinical specimen.

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- Demonstration of a four-fold change in antibody titer to *E. phagocytophila* antigen by IFA in paired serum samples; **OR**
- Positive PCR assay and confirmation of *E. phagocytophila* DNA; **OR**
- Identification of morulae in leukocytes, and a positive IFA titer to *E. phagocytophila* antigen (based on cutoff titers established by the laboratory performing the assay); **OR**
- Immunostaining of *E. phagocytophila* antigen in a biopsy or autopsy sample; **OR**
- Culture of *E. phagocytophila* from a clinical specimen.

Ehrlichiosis, human other or unspecified agent.

- Demonstration of a four-fold change in antibody titer to more than one Ehrlichia species by IFA in paired serum samples, in which a dominant reactivity cannot be established; **OR**
- Identification of an Ehrlichia species other than *E. chaffeensis* or *E. phagocytophila* by PCR, immunostaining, or culture.

- D. **KENTUCKY CASE DEFINITION:** A clinically compatible illness that is laboratory confirmed.

II. ACTIONS REQUIRED / PREVENTION MEASURES

- A. **KENTUCKY DISEASE SURVEILLANCE REQUIRES ROUTINE NOTIFICATION:** Ehrlichiosis is reportable to the LOCAL OR STATE HEALTH DEPARTMENT within five (5) business days of diagnosis.
- B. **EPIDEMIOLOGY REPORTS REQUESTED:**
1. Kentucky Reportable Disease Form – EPID 200 (Rev. Jan/03).
 2. Tick-Borne Rickettsial Disease Form – CDC 55.1 (Rev. 01/2001) see page 203.
- C. **PUBLIC HEALTH INTERVENTIONS:**
- Patient education as needed to minimize future risk of exposure.

III. CONTACTS FOR CONSULTATION

- A. **KENTUCKY DEPARTMENT FOR PUBLIC HEALTH, SURVEILLANCE AND HEALTH DATA BRANCH:** 502-564-3418
- B. **KENTUCKY DEPARTMENT FOR PUBLIC HEALTH, DIVISION OF LABORATORY SERVICES:** 502-564-4446.
- C. **KENTUCKY DEPARTMENT FOR PUBLIC HEALTH, COMMUNICABLE DISEASE BRANCH:** 502-564-3261.

IV. RELATED REFERENCES

1. Chin, James, ed. EHRLICHIOSIS. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: 181-183.
2. Pickering LK, ed. Ehrlichiosis (Human). In: 2000 Red Book: Report of the Committee on Infectious Diseases. 25th ed. Elk Grove Village, IL: 234-236.